

CLAIMS

- [001] An electrical household appliance comprising a chamber (1) which is at least partially filled with liquid during operation of the appliance and a pump (5) driven by a motor (9) for sucking out liquid from the chamber (1), characterised by a monitoring device (31) for detecting the rotational speed and power of the motor (9), for comparing detected values of rotational speed and power with a predefined characteristic (C1, C2) and for signalling an exceptional state if the comparison indicates that the detected values deviate significantly from the characteristic.
- [002] The electrical household appliance according to claim 1, characterised in that it has an inlet valve (10) for admitting liquid into the chamber (1) and a control device (30) which is set up to open the inlet valve (10) when the monitoring device (31) signals a first exceptional state in which the detected power for the detected rotational speed is significantly lower than a power which is to be expected for the detected rotational speed with reference to the predefined characteristic (C1, C2).
- [003] The electrical household appliance according to claim 1 or claim 2, characterised in that it can have a plurality of circulating paths (12, 6; 13, 7) via which the liquid circulated by the pump (5) can be guided as desired, and that the monitoring device (31) is set up to use a specific characteristic (C1; C2) for the respectively selected circulating path as the basis for comparison depending on the selected circulating path (12, 6; 13, 7).
- [004] The electrical household appliance according to any one of the preceding claims, characterised in that the monitoring device (31) is set up to use different characteristics as the basis for comparison in the course of the working sequence of the household appliance.
- [005] The electrical household appliance according to any one of the preceding claims, characterised in that the control device (30) is set up to interrupt a working sequence of the household appliance if the monitoring device (31) signals a second exceptional state in which the power detected at a detected rotational speed is significantly higher than a power which is to be expected using the predefined characteristic (C1; C2) for the detected rotational speed.

1 [006] The electrical household appliance according to any one of the preceding claims,
2 characterised in that the control device (30) is set up to deliver a warning signal if the
3 monitoring device (31) signals a second exceptional state in which the power
4 detected at a detected rotational speed is significantly higher than a power which is to
5 be expected using the predefined characteristic (C1; C2) for the detected rotational
6 speed.

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8 [007] The electrical household appliance according to any one of the preceding claims,
9 characterised in that a filter (4) is located before an inlet to the pump (5) and the
10 control device (30) is set up to instigate a flushing of the filter (4) if the monitoring
11 device (31) signals a second exceptional state in which the power detected at a
12 detected rotational speed is significantly higher than a power which is to be expected
13 using the predefined characteristic for the detected rotational speed.

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15 [008] The electrical household appliance according to any one of the preceding claims,
16 characterised in that the motor (9) is a synchronous motor and that the monitoring
17 device (31; 24, 25) is set up to detect the rotational speed of the motor (9) from the
18 time behaviour of the electromotive force in the windings (U, V, W) of the motor (9).

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20 [009] The electrical household appliance according to any one of the preceding claims,
21 characterised in that the armature (44) of the motor is located in a pump chamber of
22 the pump (5).

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24 [010] The electrical household appliance according to any one of the preceding claims,
25 characterised in that a sensor (27, 28) for detecting the intensity and/or voltage of a
26 supply current to the motor (9) is connected to the monitoring device (31).

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28 [011] The electrical household appliance according to any one of the preceding claims,
29 characterised in that an AC/DC inverter (22) for the power supply of the motor (9) and
30 the monitoring and/or control device (30, 31) are combined in an assembly.

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32 [012] The electrical household appliance according to any one of the preceding claims,
33 characterised in that it is a dishwasher.

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